

Name:

---

**at1113exam: Expand, factor, and solve quadratics (v555)**

1. Solve the equation.

$$(9x + 8)(3x - 5) = 0$$

$$x = \frac{-8}{9} \quad x = \frac{5}{3}$$

2. Expand the following expression into standard form.

$$(7x - 9)(2x - 5)$$

$$14x^2 - 35x - 18x + 45$$

$$14x^2 - 53x + 45$$

3. Expand the following expression into standard form.

$$(5x - 9)(5x + 9)$$

$$\begin{aligned} 25x^2 + 45x - 45x - 81 \\ 25x^2 - 81 \end{aligned}$$

4. Expand the following expression into standard form.

$$(7x + 9)^2$$

$$49x^2 + 63x + 63x + 81$$

$$49x^2 + 126x + 81$$

5. Solve the equation.

$$10x^2 - 21x + 14 = 3x^2 - 2x + 4$$

$$7x^2 - 19x + 10 = 0$$

$$(7x - 5)(x - 2) = 0$$

$$x = \frac{5}{7} \quad x = 2$$

6. Factor the expression.

$$x^2 + x - 42$$

$$(x - 6)(x + 7)$$

7. Solve the equation with factoring by grouping.

$$12x^2 + 18x - 10x - 15 = 0$$

$$(6x - 5)(2x + 3) = 0$$

$$x = \frac{5}{6} \qquad x = \frac{-3}{2}$$

8. Factor the expression.

$$49x^2 - 16$$

$$(7x - 4)(7x + 4)$$